

Materials Support Stand

Field of the invention

This invention relates to a materials support stand which may be used to support materials and equipment used in underground mining operations.

5 Background of the Invention

Underground mining operations are frequently carried out in cramped and hazardous conditions and it is important that materials and equipment used in the operation are kept well ordered and readily accessible to ensure that the operation can be carried out as smoothly as possible. Modern mining techniques have increased the mechanisation of the mining operation and large underground mining machines are frequently employed to carry out many of the operations which were previously carried out by individuals using hand held equipment.

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One modern advance is to provide a vehicle which carries out semi-automated roof bolting operations. The equipment carried on such vehicles is highly automated but workers are still required to change drill rods, insert roof bolts into the machine, and operate the apparatus. It is important that such workers have materials and equipment readily available to them so they are not inconvenienced having to locate items on the floor or the machine during the bolting operation or walk-between the bolting apparatus and a storage facility.

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Summary of the invention

According to the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:

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a base adapted to stand on a surface of a said machine adjacent to said apparatus;

an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items; and

securing means for releasably securing said base to said surface; and wherein there are at least a pair of arms aligned generally side by side with each other and defining a space therebetween in which said items can be located.

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According to another aspect of the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising: a base adapted to stand on a surface of a said machine adjacent to said apparatus; an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items; securing means for releasably securing said base to said surface; and said equipment support stand is adapted to be coupled back to back with another stand to provide for double storage capacity.

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According to another aspect of the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilize a plurality of interchangeable items, said stand comprising: a base adapted to stand on a surface of a said machine adjacent to said apparatus; an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or

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Three wedge or other shaped hooks 56 are mounted to the base 36 and are connected to center locking clamps 58. The hooks 56 are adapted to locate below platform 12 to secure the stand in position. Platform 12 will generally have a mesh or like covering material and the hooks 56 will locate below that mesh. The over centre clamps 58 will then be used to tension the hooks 56 pulling the wedged shaped end up against the underside of the mesh. With the three hooks tightly clamped in position the stand will be securely held and therefore will not fall over during bolting operations or whilst the machine is being moved from one location to another.

Turning now to figures 4 and 5 of the drawings, a similar stand is shown and this stand includes a rectangular shaped bracket 60 at the upper end of the frame 62, the bracket 60 being similarly shaped to the bin 64. The bracket 60 and bin 64 are in alignment with each other so that a rectangular slot is provided which is adapted to receive a box of resin capsules. The box will be retained in position by the bracket 60 and individual resin capsules can be removed from the box from upper end thereof as and when required for bolting operations. The stand shown in figure 4 includes three arms or pegs 66 which extend upwardly from the rack 62 and provide pegs on which items such as washers, nuts, butterfly plates and other items of annular configuration or which have holes therethrough, can be located and held in position on the rack. It will be noted that each of the pegs 66 is upwardly inclined to ensure that items located thereon do not inadvertently become dislodged as the machine vibrates in use or moves around.

The stand shown in figures 4 and 5 is shown having a pair of side by side drill rod retaining brackets 68, each of which has a magnetic clamp 70 associated therewith. The drill rods will be placed into the rectangular sockets 72 and upper end of the drill rods will be clamped in position by the magnetic clamps 70. It is envisaged that the magnetic clamp 70 will comprise rare earth magnets which will ensure that a reasonably high force of attraction exists between the magnetic clamp and the drill rod. It will be a simple matter to remove the drill rod from the bracket 68 by pulling on it and therefore this will provide a relatively quick arrangement for retaining drilling rods in position on the stand yet having the drill rods readily available for use as and when required.

Turning now to figure 6, two of the stands are the type shown in figures 4 and 5 have been joined together back to back to provide a larger capacity stand which can be used from opposite sides thereof. The stand includes clamps 74 for clamping a combined stand in the centre of the platform 12 adjacent to the two central bolting rigs 16. A combined stand shown in figure 6 has many of the features of the stand that is shown in figures 4 and 5.

Clearly, for different mining operations, different features may be required on the stands. The quick and simple arrangement by means of which the stand is securely clamped to a platform is considered to be advantageous particularly since it allows the stand to be moved from one location to another location on the platform without the use of special tools or the like. Clearly other forms of hook arrangements might be used if the wedged shaped arrangements as shown in the drawings are not suitable for a particular platform configuration.

Practitioner's Docket No. 11941

CHAPTER II

**PRELIMINARY AMENDMENT
TO THE UNITED STATES ELECTED OFFICE (EO/US)
(ENTRY INTO U.S. NATIONAL PHASE UNDER CHAPTER II)**

PCT/AU99/00011	12 January 1999 (12.01.99)	31 July 1998 (31.07.98)
International Application Number	International Filing Date	International Earliest Priority Date

TITLE OF INVENTION: Material Support Stand

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ATTENTION: EO/US

Please amend the Claims as follows:

In Claim 5, delete any one of claims 1 to 4 and insert —Claim 4--.

In Claim 6, delete any one of claims 1 to 5 and insert —Claim 5--.

In Claim 7, delete any one of claims 2 to 6 and insert —Claim 6--.

In Claim 8, delete any one of claims 1 or 3 to 7 and insert —Claim 4--.

In Claim 9, delete any one of claims 1 to 8 and insert —Claim 4--.

In Claim 10, delete any one of claims 1 to 9 and insert —Claim 4--.

In Claim 11, delete any one of claims 1, 2 or 4 to 10 and insert —Claim 4--.

In Claim 12, delete any one of claims 1 to 3 or 5 to 11 and insert —Claim 2--.

In Claim 13, delete any one of claims 4 or 12 and insert —Claim 4--.

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